2021 NCSBN Scientific Symposium - Substance Use Disorder in Nurses: Exploring Psychological Trauma as a Risk Factor Video Transcript

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Presenter
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- [Woman] Dr. Foli is an award-winning researcher, educator, and author, who examines predictors of substance use in nurses, specifically the role of psychological trauma. She has formulated the middle-range theory of nurses' psychological trauma, in which she introduces a discourse of nurse-specific traumas. Her book, The Influence of Psychological Trauma in Nursing, won two first-place awards in the Wolters Kluwer American Journal of Nursing Book of the Year Awards 2019 for psychiatric mental health nursing and nursing education.

- [Dr. Foli] Hi. My name is Karen Foli. I'm from Purdue University, West Lafayette, Indiana. I'm here to talk to you today about substance use disorders in nurses, exploring psychological trauma as a risk factor.

What I'd like to cover today are several objectives. First, I'd like to delineate some emerging patterns in the literature that I've noticed as I do literature reviews for grant applications and peer-reviewed papers. Next, I'd like to specifically describe the project about substance use in nurses that was just completed. This project was funded by the National Council of State Boards of Nursing: Center for Regulatory Excellence.

Third, I'd like to describe some of the conclusions and regulatory implications of the project and the research findings. And last, I'm going to argue for the need for future investigations in registered nurses who struggle with substance use, particularly from an organizational level. So to start with the two emerging threads in the substance use literature surrounding nurses, what I have found are these two kind of divergent threads, although there is some overlap in them.

The first thread is what we call foundational literature, and that literature spans a little bit farther back in time, but it relates to prevalence rates, risk factors, how we measure that, regulatory considerations, and so forth. The second emerging thread that I've noticed takes more of a critical theory view of substance use in nurses.

We talk more about the context of substance use in nursing as a particular and unique profession in a high-stakes, high-pressured environment. I call your attention to the work of Ross and colleagues, especially in her article, "A Two Glass of Wine Shift."

It really gives us a broader understanding of this phenomenon within the lived experiences of registered nurses. I could spend an entire day discussing the background of substance use in registered nurses, but for today I'm just going to briefly talk about prevalence and some risk factors that we know of. Right now our understanding of prevalence of substance use is about that of the general population, about 6% to 8%.

Some would argue, however, that it's much higher than that. And there is a social desirability component to studying this phenomenon. We also know there's some risk factors, such as access to medications and drugs, stress levels, self-medicating, sometimes for musculoskeletal injuries that nurses have experienced, a lack of education regarding substance misuse and use, attitudes of nurses, and their demanding shift schedules and rotations.

We also know that there are specialty areas, such as nurse anesthetists, who have a known higher rate of substance use and misuse. But for today, I'm going to spend the rest of this presentation on the project that I referenced on the first slide. It was a two-phase study that really was about three years in length. We're just finishing up.

Really proud of this study with my colleagues, Lingsong Zhang and Blake Reddick. I think we've produced some nice literature and disseminated it in various conferences. Our Phase 1 had to do with document analysis and the legal court proceedings that took place between the Indiana State Board of Nurses and nurses in front of the board for substance use issues.

The second phase comprised of qualitative and quantitative projects, was larger in scope, and I will describe it in detail later. We have for our quantitative analysis almost 1,500 nurses responding to our solicitation. So back to Phase 1.

This, again, was a qualitative analysis of court proceeding documents that are publicly available in the state of Indiana. I know states vary in terms of the public availability of these court proceedings. What we asked as our overarching research question was what are the safety, regulatory, and professional issues that influence nurses' substance use who present before the board for disciplinary action?

We wanted specifically to look at the temporal patterns that occurred. We know substance use is a chronic disease, we know that there is recurrence, and so we really wanted to take an examination of these court documents, which, at first glance, appeared somewhat sterile and generic.

But as you got further and you traced back the trajectory of some of the nurses who were experiencing this chronic disease, became much more enlightening. Here's an example of one of the license litigation court documents that we reviewed. We've obviously marked out any identifying information, but you can see, it is a court document.

And what we did was we selected from our sample. We started in 2017, taking some samples of various documents, and realized that these narratives, I call them narratives, again, court documents, these texts, stretched farther back in time.

So we went back to 2014, got some more RNs for our sample. So ultimately, our total sample was 51 RNs and 236 documents. And by documents, we really...we're talking about court events, court proceedings. If you look in the footnote, each of those documents was between 7 and 10 pages in length.

We filled about three 3-inch binders with all of these data in them, and it was something that we couldn't do using a qualitative software. We really needed to do it ourselves. So I had another coder, Dr. Reddick, who is also helping me with this analysis. We came up with these themes, and I will go through...all of the presentation descriptions I'm going through are published peer-reviewed papers, and I have those citations at the end of this presentation so that you can look more in depth at all of these findings that I'm describing for you.

I'm going to highlight some of the themes for you. There's a critical junction of the various actors in the process, and by actors, I mean those social people who are there for this particular moment in time. They could be the nurse's attorney, they could be the members of the state board of nursing, it could be the attorney general of the state of Indiana, it could be the Indiana State Nurses Assistance Program program representative, and so forth.

They all had divergent goals, though, if you will, and that's important to note as well. There are also emerging groups who appear before the board, those individuals with really a chronic disease or relapse and recurrence was very much in the picture. There was individualized context in terms of the court decisions as well as standardized discipline in terms of probation, suspension of licensure.

And we know that this type of disease is one that the overall goal is to continue using. And so we saw that this was deliberate diversion, deceit, and deception, and ultimately, a significant threat to public safety and quality care. This is an example of what we wrote up after looking. This was probably maybe 100 pages of documentation that we traced back for this particular individual.

You can see her nursing license was issued in 1978, but you still see her having interactions with the board in 2017. We saw not uncommon for nurses to abruptly leave their organizations if they were confronted with substance use and ultimately able to secure additional employment sometimes and not unfrequently in long-term care facilities, who are typically very understaffed and looking for registered nurse help.

Our Phase 1 study conclusions, then, is that this is a complex process. It's not simple, it's not straightforward. In the study that is published, we have a workflow chart that shows just how the nurse would navigate or go through this process from the time of recognition of substance use issues and then coming in front of the board, etc.

There is this juncture, if you will, of various parties who are involved in this process, and then, again, they each compete for different goals, from the nurse, who is trying to maintain a livelihood, to the board, who is trying to maintain public safety. We also verified that opioids and alcohol are the leading

substances used by nurses. So now we're going to shift to Phase 2, which was a mixed-method survey design.

Our data were collected from an online survey. And just to back up a little bit, let me give you some background about this particular sample. We purchased with the grant funding the entire database of registered nurses from the state of Indiana. It was comprised of 160,000 registered nurses' addresses, their license status, etc.

From that, we took a randomized stratified sample of registered nurses based on year of licensure. We used the postal mail because we did not have access to email, and mailed off 4,000 letters, giving them, registered nurses, an idea of the study, the purpose, and how they could access our web page which we created for the study.

From this web page, then, they had access to resources if they were struggling with substance use as well as the online, we used Qualtrics as our survey platform, link to the online survey. This survey contained many validated tools, which I'll talk about in just a moment. I'm going to kind of go back in time.

One of our open-ended questions of the survey was, "Please add any additional comments related to substance or alcohol use that you've experienced or witnessed in registered nurses." Of the ultimate 1,478 nurses who responded to our postal mailings, 373 went ahead and gave us open-ended responses to this question.

From the content analysis..so we used a little bit of a different way of approaching these data, and we were surprised at the richness of the data that we received. Online interviewing, if you will, is a solid way, I think, of understanding this phenomenon, and this, I think, supported that conjecture.

This article was published in the American Journal of the...or the Journal of the American Psychiatric Society. I heard about a nurse who... And what we found was that there was different social proximity to nurses who are using substance use. I think one of the novel findings was that nurses who are using and misusing substances, it's not just confined to that individual, but there are real influences by that use on the unit, at the bedside, and in the organization.

We saw this individual process go from vulnerability to outcomes, oftentimes negative outcomes, and, again, that this use reflected bedside, system, and organizational spaces and effects. Then there were those that said that they had never had any exposure to substance use in nursing. Our conclusions, then, from the content analysis of those 373 nurses who gave us information was that about 25% of the nurses actually disclosed that they were either recovering or actively using substances.

But there was...75% of those who gave us feedback were not actively using but still wanted to report how they were affected by this phenomenon. They described peers who were using, they described suicides, they described finding nurses in bathrooms, they described a lot of things that obviously had affected them.

And it kind of teeters on the border of secondary traumatic stress for them. I did not see in the data any reports of really escalating things or talking to nurse managers to any great extent. And then, thirdly,

there were individual factors and system-related failures that appear to be contributors to substance use in nurses.

So for the rest of our time, I'm going to talk about the third study that we did in this project, Study 2 of Phase 2. And this was the quantitative approach to these data that we took. We really took a focused approach to trauma, psychological trauma, to see if there were relationships or if we could somehow use trauma as a predictor to substance use in nurses.

We also looked at risk rates in terms of these data. So what are the screening rates of tobacco, alcohol, and other substance use? And again, what are the predictor variables of such substance use? So, again, in this Phase 2, Study 2, we had almost 1,500 nurses who contributed to our data.

And we incentivized them with a $50 Amazon gift code, which, again, was made possible through the funding that we received. We were very pleased, also, that these individuals completed, we had a very high completion rate. So our data set was very, very complete.

We had very few missing data pieces. As you can imagine, we had characteristics of our sample, which included 92% being female, a mean age of 44 years, most of them were Caucasian, married, and not of Hispanic ethnicity. Average time of nurse licensure was 18 years.

This is a very condensed slide of all of the validated measures that we used. So in addition to the demographic variables that we asked, we had a brief survey for organizational support, depression, anxiety, resiliency, optimism, religiosity, and then we also looked at those trauma- related variables, which, again, was the focus of the study.

There's been a lot of press, a lot of attention given to adverse childhood experiences, and we know from some of the emerging literature in student nurses that that is a factor for them in terms of substance and alcohol use. We used a Life Events Checklist to determine what had happened in terms of life, what I call part of that humankind trauma.

We also looked at workplace violence, lateral violence, or negative behaviors in the workplace, and second-victim items which relate to the occurrence of a medical error, and then if a medical error has happened, if they are experiencing psychological harm from those errors. So our outcome measure was the World Health Organization ASSIST tool.

This is a screening tool that's used both in primary care and research studies. It follows the SBIRT pattern, screening, brief intervention, and treatment. So we looked at substances individually, tobacco, alcohol, and other substances. And again, this is related to risk use.

So this chart here talks about the minimal risk is the no intervention, the middle column is receives brief intervention, what we call moderate risk, and the far-right column is more intensive treatment or high risk.

As you can see, the range of scores in the middle that has got the red circle or oval around it really is a large range. So what we did was we looked at low moderate and high moderate risk. We divided that category into two separate moderate risk categories. And that's what you see on this slide in red.

So interestingly enough, just coincidentally, the moderate risk, both low and high, for both tobacco and alcohol was 11.6% for each of those. Other substance, moderate risk was 10.4% for the nurses. We also performed regression analysis to look at what might be predictors based on those measures that I reviewed with you, what's going to be coming out in our final regression model.

Our regression coefficients were fairly modest, but when you talk about this type of complexity in a human science study, I think that they are leading us towards novel information that we can build upon. For tobacco use, we found that those ACE scores popped up as highly significant. We also found that the Lateral Violence Question 38, which has to do with them losing their patience and directing behaviors that can be interpreted as violence towards co-workers, popped up as well.

We also see the depression and anxiety, and past ISNAP score or ISNAP involvement. Again, ISNAP stands for Indiana State Nursing Assistance Program. It's a monitoring program conducted by the state of Indiana to help monitor nurses who are either self-identified or have been identified as using substances.

Our alcohol regression model, little bit higher, but you, again, see some trauma variables percolating through. The Life Events Checklist, which has to do with things that have happened to them or they've witnessed, or things that have happened on the job, and the Lateral Violence Question 39, which had to do with how often have you crossed the line and used behaviors that could be interpreted as lateral violence towards others.

Again, you see depression and anxiety as well. Finally, our third regression model had to do with other substances. The ASSIST tool really goes into specific substance use, like, benzodiazepines, opioids, those types of things.

However, we felt that the Ns were small, so we did collapse those into other substances. These findings can be found in an in-press article in the Western Journal of Nursing Research. But, again, in terms of the model, you see three trauma-related variables in this final model, the adverse childhood experience score, the life events, and Lateral question 37, which has to do with how often do you see co-workers losing their patience and directing behaviors that can be interpreted as lateral violence.

So witnessing this towards others. So to sum up what we found and in terms of making sense of these three models, we saw that depression and anxiety, and questions related to the lateral violence were in each of the three models. We also saw indications of trauma in terms of adverse childhood experiences or life events in all three models as well.

Of course, there are limitations to every study, and this study is no different. I alluded to social desirability earlier on, and that is certainly the case when you try to measure substance use in a profession such as nursing where livelihoods are at stake and in addition to all of the difficulties in terms of this phenomenon in general.

I had a nurse...several nurses call me, actually, wanting reassurances that these data were confidential and anonymous. They were very hesitant to really report use in the questionnaires and sample. And so

that is certainly a limitation as well. It was a very homogeneous sample, and other substance use category Ns or frequencies were very small.

These are also...this wasn't in any way an experimental design. It was basically an association trying to look at variables that could predict various substance usages. So I got some conclusions that I'd like to share with you now.

Nurses, then, are at moderate risk for tobacco use, alcohol use, at 11.6%. If you think of 100 nurses, 11, almost 12 of them, are at moderate risk for these substances, and for other substances, about 10%.

These are concerning estimates in terms of risk. Trends in substance use in nurses, I believe, warrants further study, both on an individual and system level. And we have this information for those qualitative data that I talked about before, that it's not just the nurse who is using the substances, but there are ripple effects in the organization, on the unit, and certainly for regulatory and patient safety issues.

I have another study that I have that's ongoing that was funded by the college that I reside in, and it has to do with COVID and nurses on the frontline. And I have detected through the qualitative work that I am doing a substantial increase in substance, particularly alcohol use, in nurses, which has been verified by the ANA Enterprise mental health survey that was recently done that found during the pandemic, 18% of the nurses have reported increased alcohol intake.

And I should have emphasized this more at the beginning, but I would say that this project was pre-pandemic. So all of those figures I have just shared with you and all those themes that I just shared with you were pre-pandemic COVID-19. So I think what the pandemic has done is push the high-pressure, high-stakes environment to a new level and that there is even more trauma that's going on, and you're seeing PTSD really talked about more openly in terms of the pandemic itself.

I believe that there's a gap in understanding the nurses' experiences in terms of substance use in the organizational interface, and I would really like that as my next step of investigation. Here are the articles that I've mentioned to you that you can look up that have been disseminated interview in peer review publications.

The one that's not highlighted had to do with another open-ended question in the survey in Phase 2 and it specifically asked about trauma. And I'm so grateful to the National Council State Boards of Nursing because I was able to glean from this data a new type of psychological trauma that's specific to nurses and that is insufficient resource trauma, that trauma that occurs with lack of staffing, lack of personnel, lack of access to other professionals and supplies such as PPE that nurses have faced particularly since the pandemic have started.

So I want to thank you for your time. I hope this has been helpful and enlightening to you. And my sincere gratitude for this funding and what it has brought to light in terms of substance use in registered nurses.

Thank you. Hello. I hope you've enjoyed the presentation. I hope it was helpful in understanding this phenomenon.

I want again extend my appreciation to the National Council State Boards of Nursing for funding this project. I have some questions. One has to do with how cannabis and marijuana use was situated in the study. This is a really, really good question, a complex question, and I also received this kind of query when we were submitting our final paper from one of the reviewers that was peer reviewing it.

Because the study was located in Indiana, marijuana use is still illegal. So it really fell into the other substance use categories and the ASSIST tool specifically teases it out.

So for this study, cannabis was located under other substances. Again, I would refer you to the Western Journal of Nursing Research, there's an EPUB that was just released. So I hope that's helpful. Let's see. Jacqueline, "I actually want to know what the acceptable process." So I think what Jacqueline is asking is another really good question.

It has to do with, again what I'm hoping to do next in terms of my research and that is that critical interface between organizational policies and practices in the nurse who might be misusing and diverting. And I really want to know for example, if it's included in onboarding, orientation, if it's a continuing ed type thing because we know that it's a risk factor.

Those folks who are unaware of the influence, if we can diminish that through education, I think we should. But there's a lot of... I would direct your question to Monroe 2011, et al., and there's a a really robust discussion about the gaps that we have in terms of understanding of the organization and nurses interface, and should report and how they report suspected use from colleagues.

Hope that helps, Jacqueline. Let's see. So another question is from Mary. "Did you access..." We did... So Mary's question has to do, another really good question, if we access to historical information about the exposure of the nurses in our study to substance abuse as children.

So the ACE, Adverse Childhood Experiences asks about parental variables such as depression and mental health issues, and substance use issues. So that we didn't tease it out as a singular variable. It was kind of lumped, the ACE score itself, but we did track that. And again you could see how ACE scores hopped up on those regression models. So we think it is...

And of course, there's familial tendencies we are asking in some of our more current work, do family members, do they have a history of substance use. So that is an important variable that we hope to kind of tease out more specifically. Let's see. I think that might be all of it, and I might be out of time.

I don't know. All right, thank you so much.